

Model Name: GA-H61M-WW

Rev: 1.0

SHEET

TITLE

| | |
|----|----------------------------|
| 01 | COVER SHEET |
| 02 | BOM & PCB MODIFY HISTORY |
| 03 | BLOCK DIAGRAM |
| 04 | CPU_LGA1155-A |
| 05 | CPU_LGA1155-B |
| 06 | CPU_LGA1155-C |
| 07 | DDR III CHANNEL A |
| 08 | DDR III CHANNEL B |
| 09 | PCH_FDI,DMI,USB,PCIE,NVRAM |
| 10 | PCH_DP,CLK BUFFER |
| 11 | PCH_HOST,SATA,PCI |
| 12 | PCH_GPIO,CTRL,AUDIO |
| 13 | PCH_PWR,GND |
| 14 | PCI EXPRESS*16 SLOT |
| 15 | PCI EXPRESS*1x2 SLOT |
| 16 | ITE 8728 LPC IO |
| 17 | KB_MS,R_USB,-PROCHOT |
| 18 | HWM,FAN CTRL,OV |
| 19 | Single BIOS |
| 20 | FP,FUSB,SPK,SATALED |
| 21 | ALC887 |
| 22 | REAR AUDIO JACK |
| 23 | REALTEK 8111F/USB_LAN |
| 24 | DISCRETE POWER |
| 25 | ATX,-S_WARN,-S_ACK,5VDUAL |
| 26 | CPU_VTT |
| 27 | VCORE INTERSIL_95836_1 |

SHEET

TITLE

| | |
|----|------------------------|
| 28 | VCORE INTERSIL_95836_2 |
| 29 | VCORE INTERSIL_95836_3 |
| 30 | LPT |
| | |
| | |

| | | |
|------------------------------|----------------------------|---------|
| Gigabyte Technology | | |
| Cover Sheet | | |
| Size Custom | Document Number GA-H61M-WW | Rev 1.0 |
| Date: Tuesday, June 04, 2013 | Sheet 1 of 32 | |

Rev:1.0

Component value change history

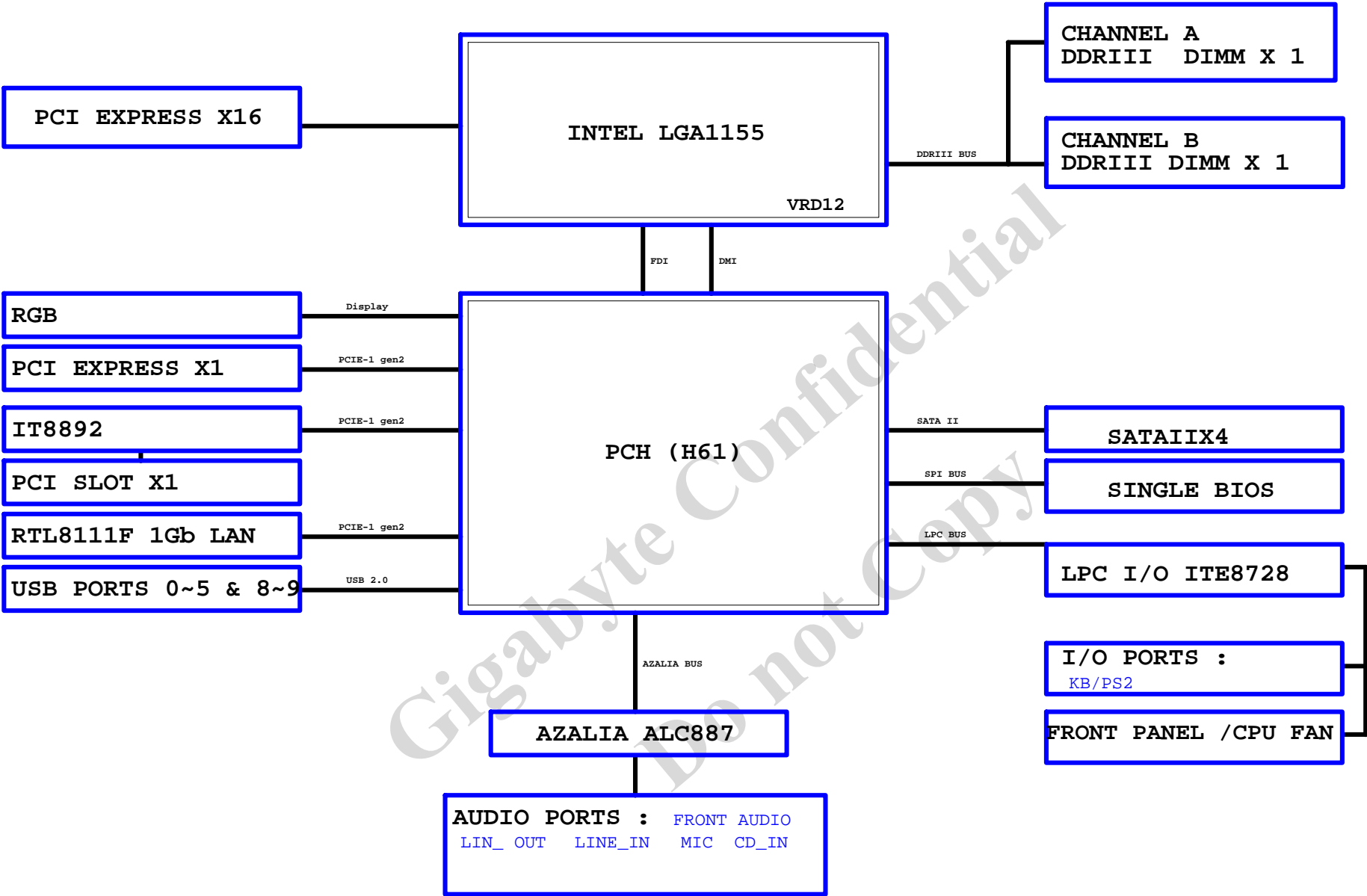
2013/04/7

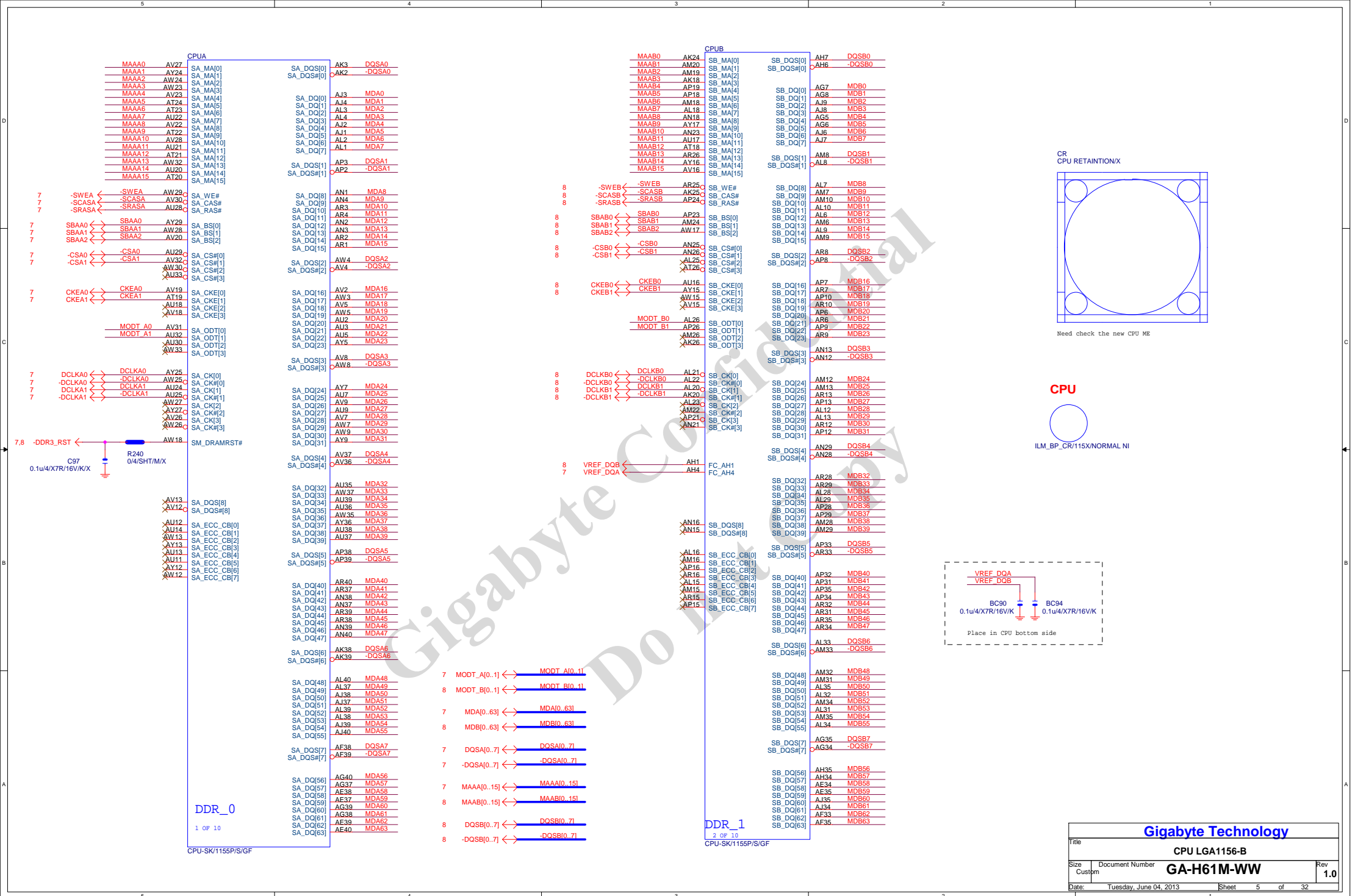
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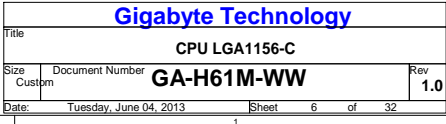
Circuit or PCB layout change

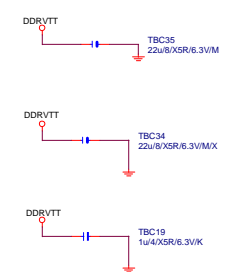
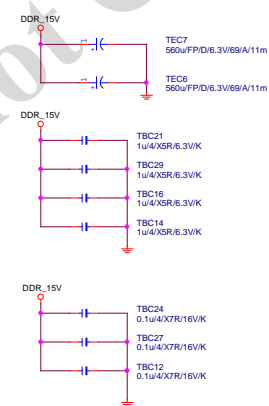
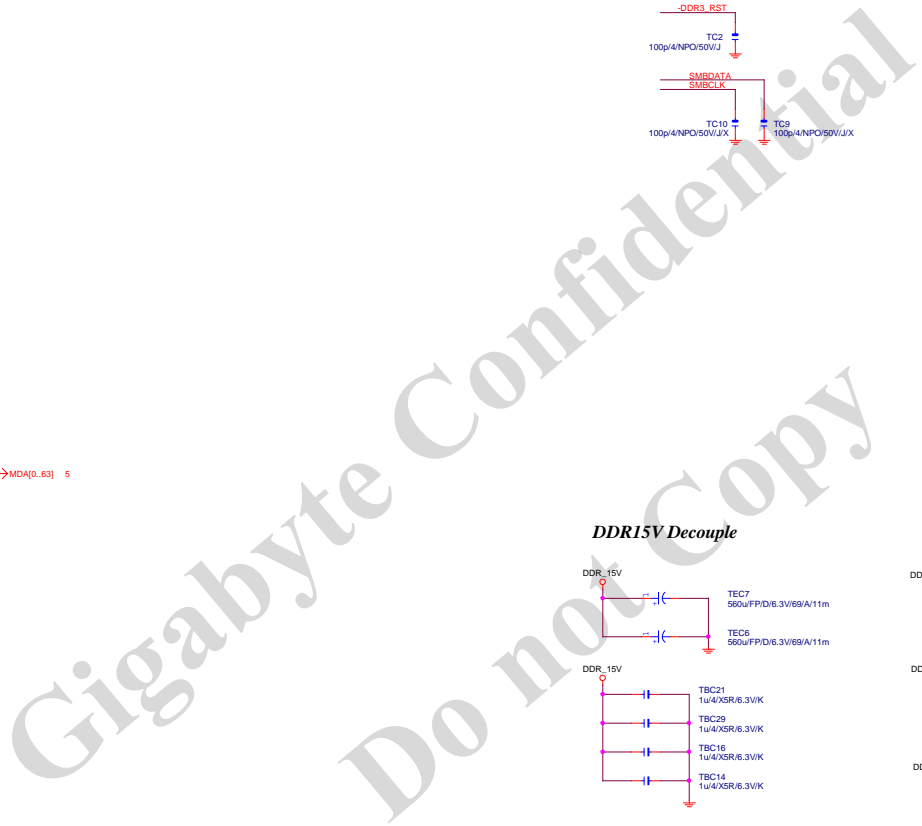
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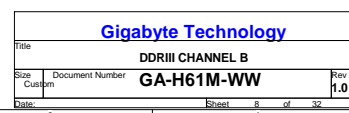
BLOCK DIAGRAM

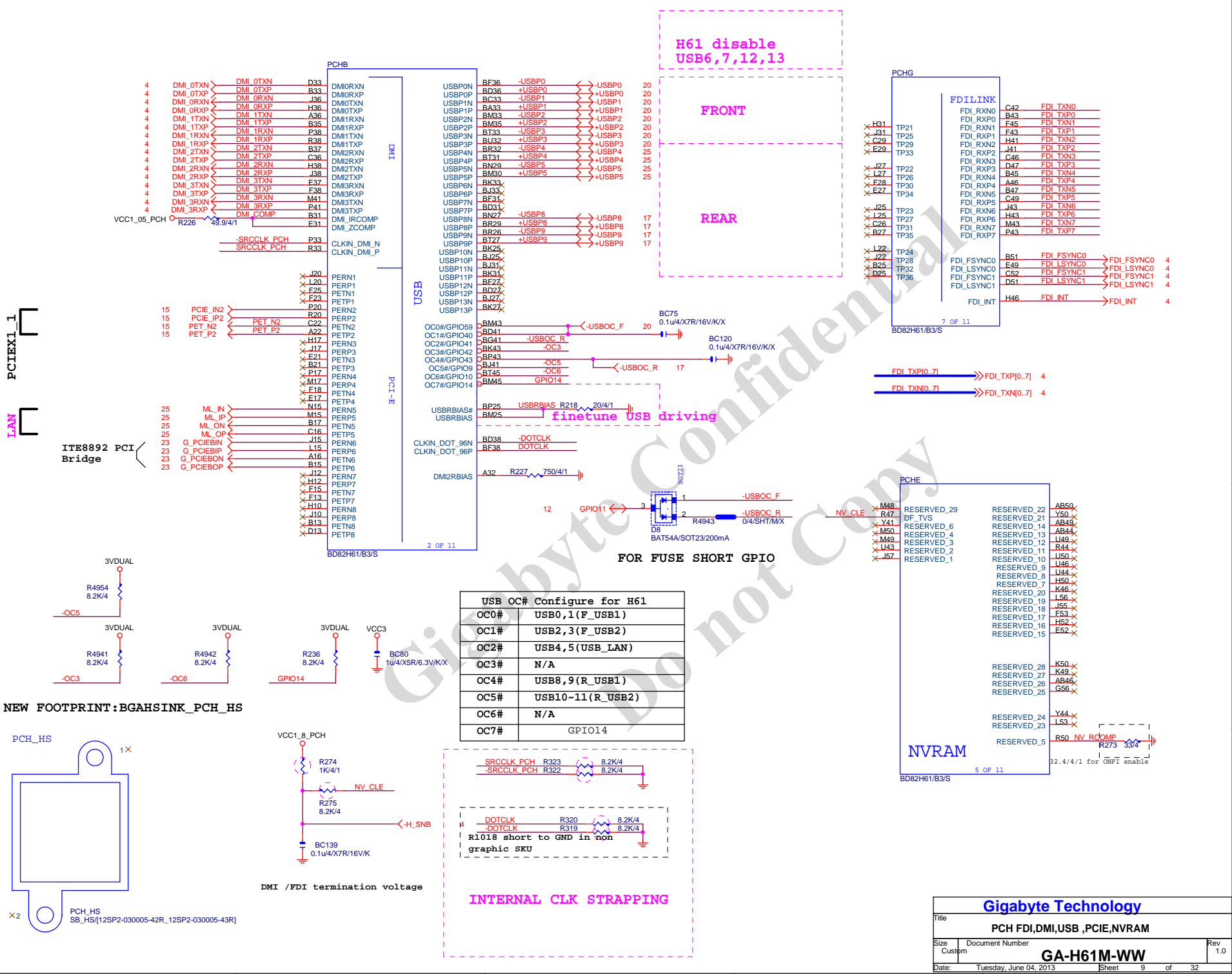










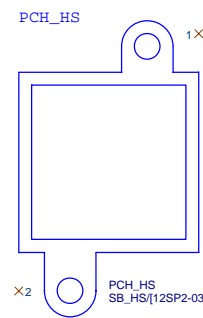


PCIEX1_1

LAN

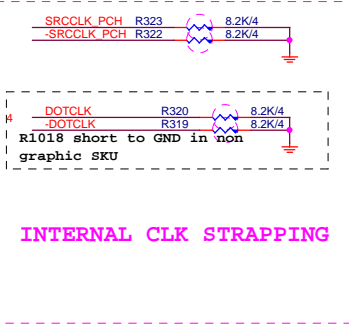
ITE8892 PCI Bridge

NEW FOOTPRINT: BGAHSINK_PCH_HS



PCH_HS
SB_HS [12SP2-030005-42R_12SP2-030005-43R]

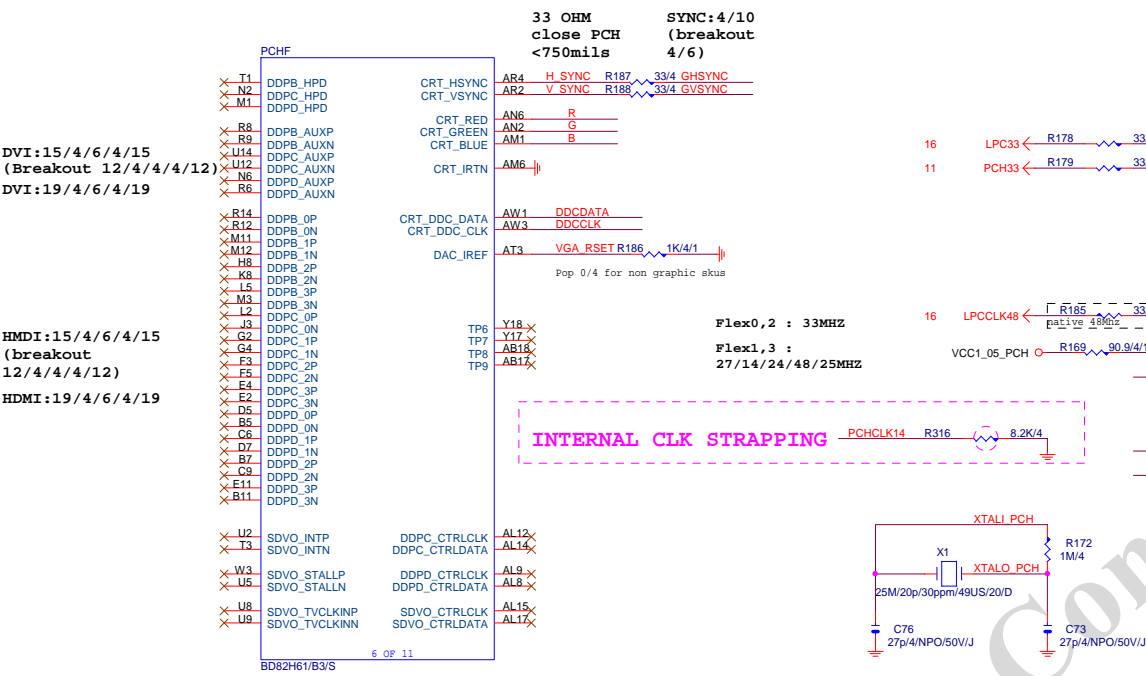
| USB OC# Configure for H61 | |
|---------------------------|------------------|
| OC0# | USB0,1(F_USB1) |
| OC1# | USB2,3(F_USB2) |
| OC2# | USB4,5(USB_LAN) |
| OC3# | N/A |
| OC4# | USB8,9(R_USB1) |
| OC5# | USB10~11(R_USB2) |
| OC6# | N/A |
| OC7# | GPIO14 |



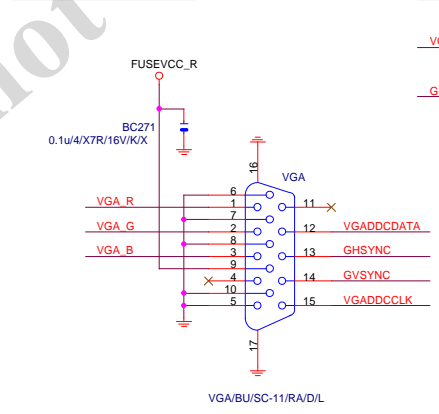
INTERNAL CLK STRAPPING

DVI:15/4/6/4/15
(Breakout 12/4/4/4/12)
DVI:19/4/6/4/19

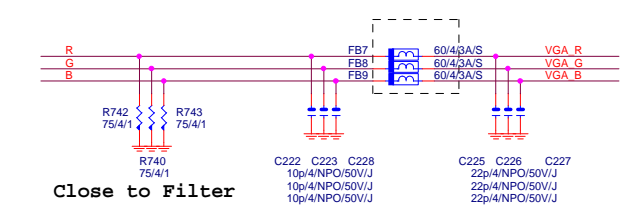
HDMI:15/4/6/4/15
(breakout
12/4/4/4/12)
HDMI:19/4/6/4/19



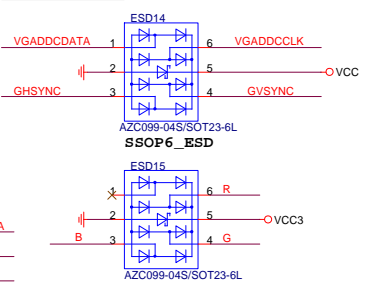
VGA CONNECTOR



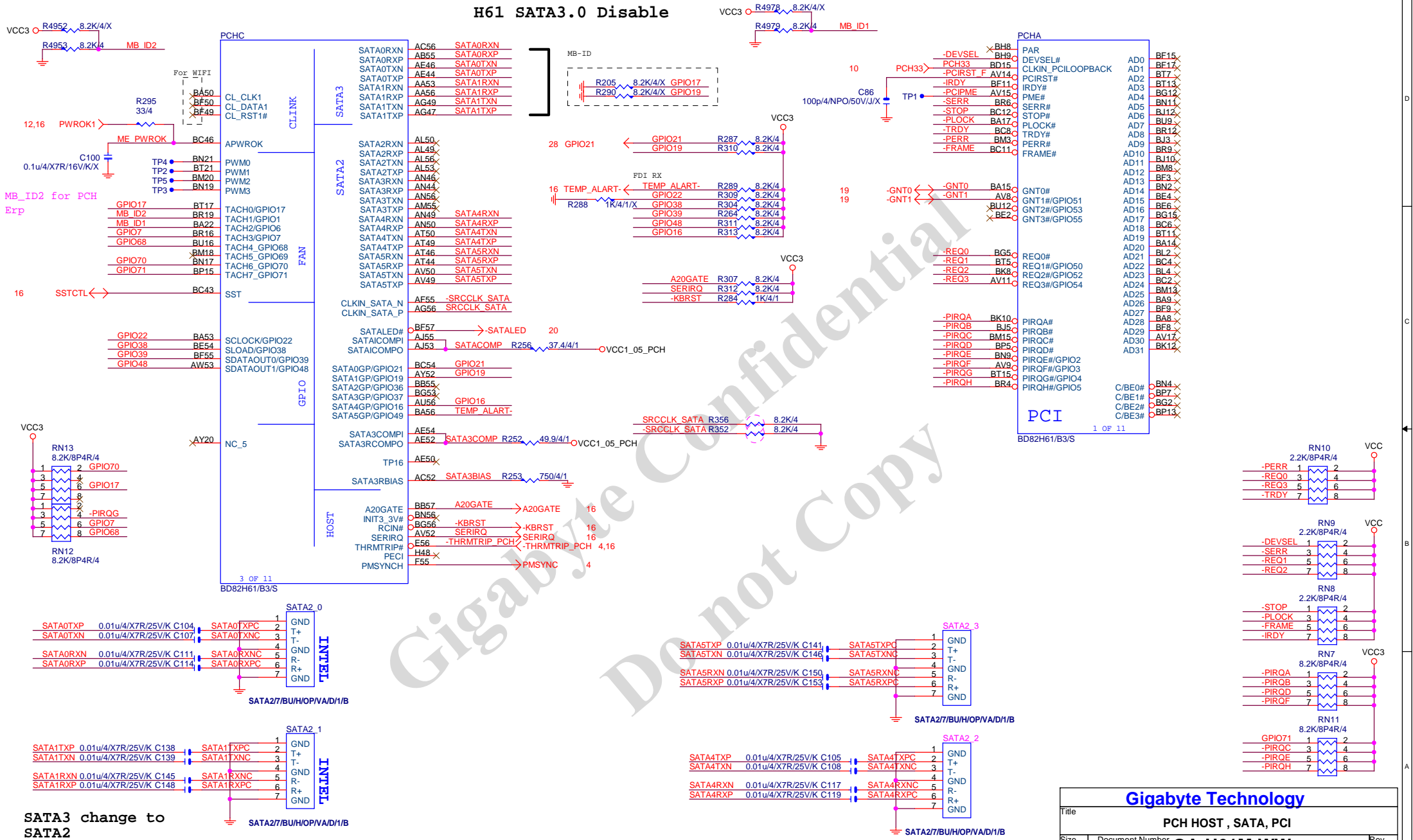
VGA DDC



VGA ESD



H61 SATA3.0 Disable

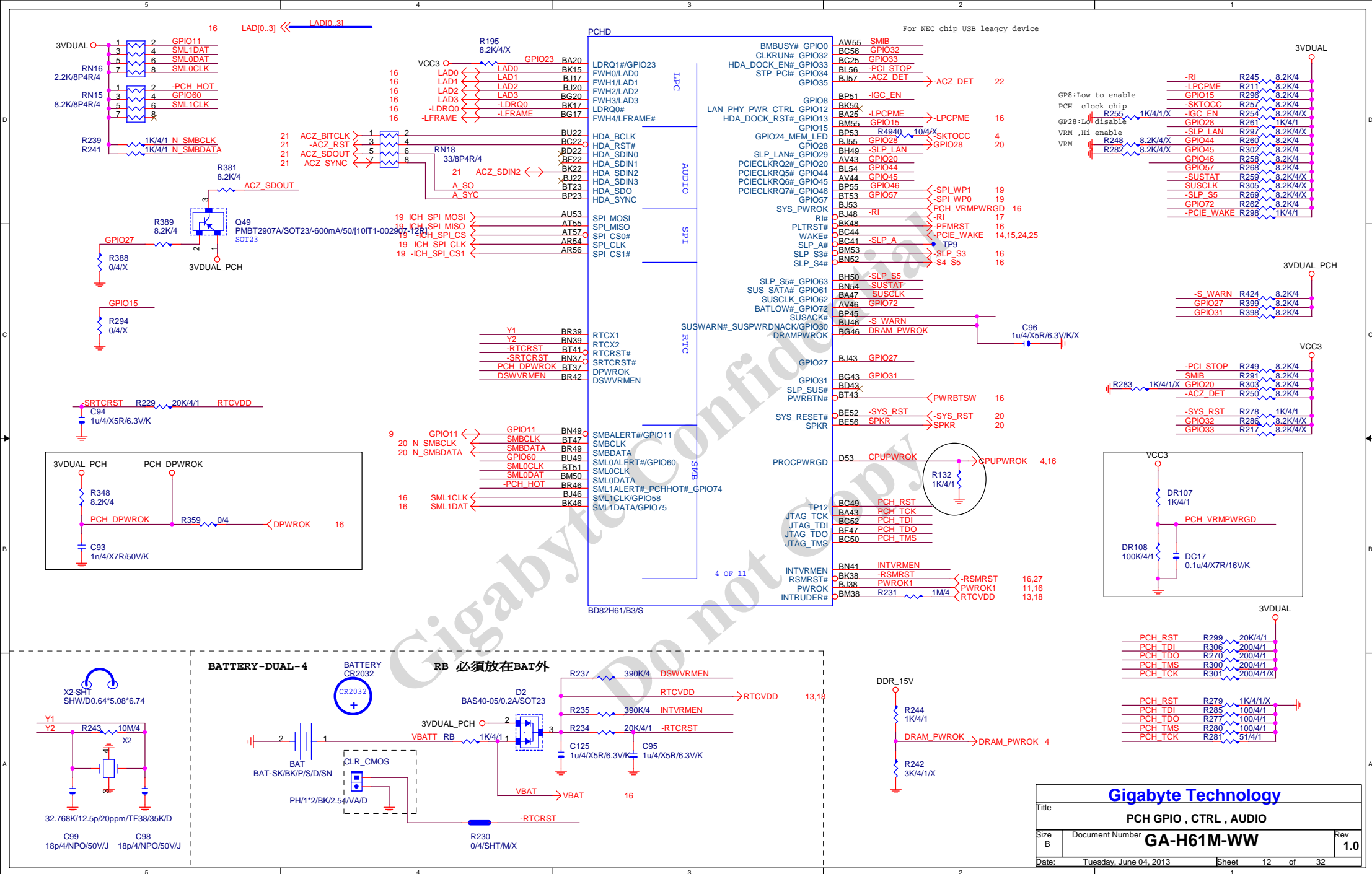


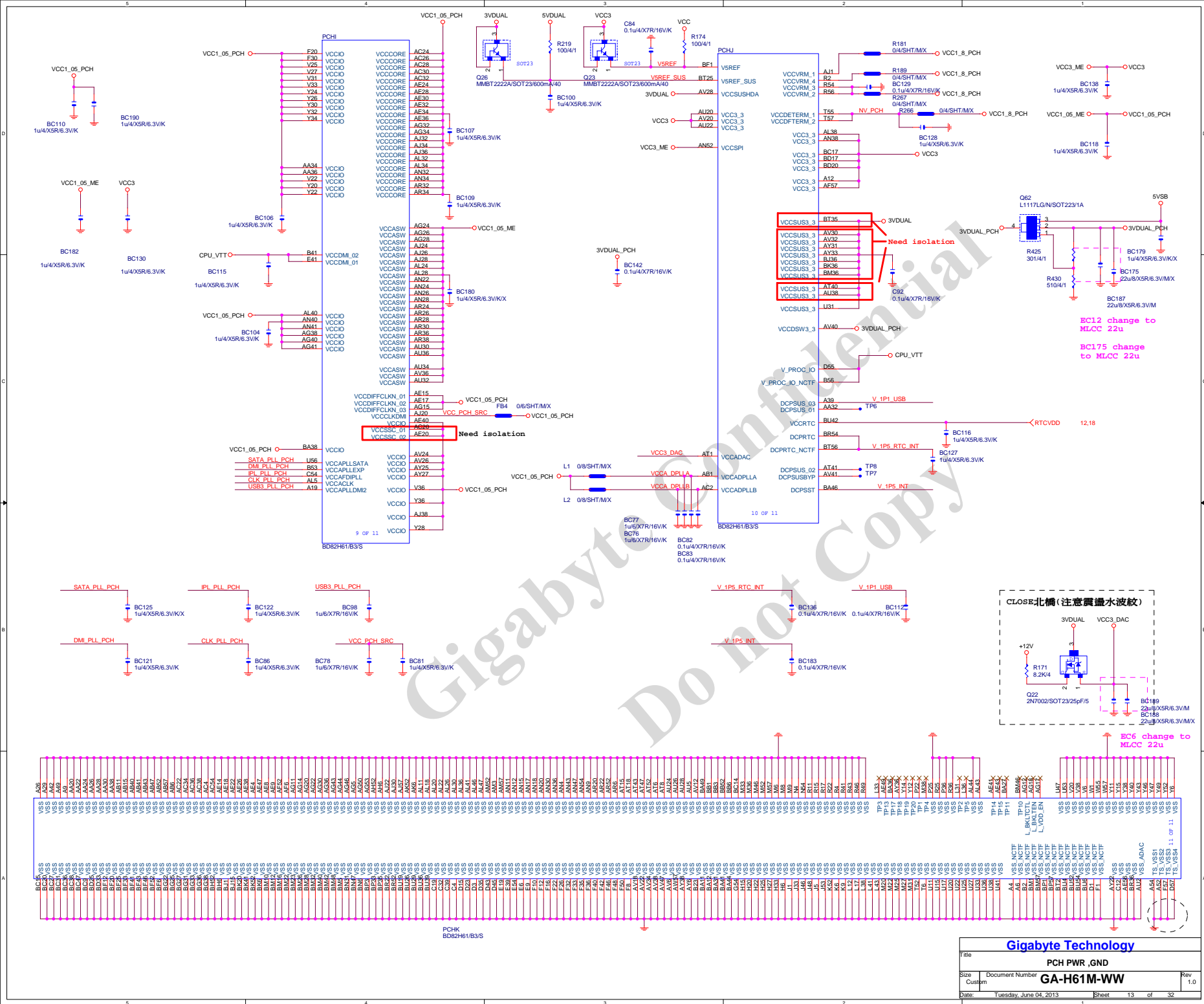
SATA3 change to
SATA2

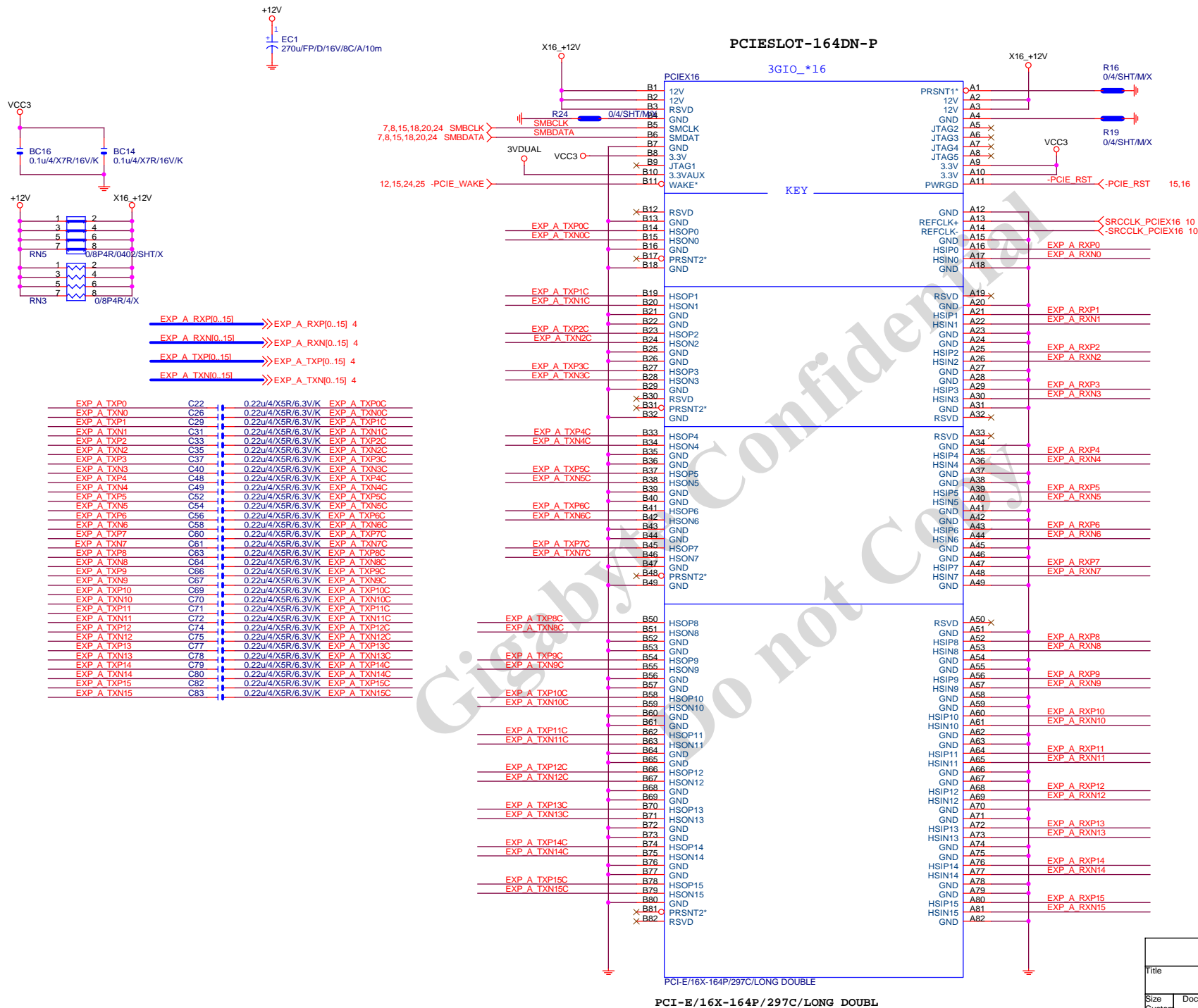
H1X7-SATA2-HS-MASK

Gigabyte Technology

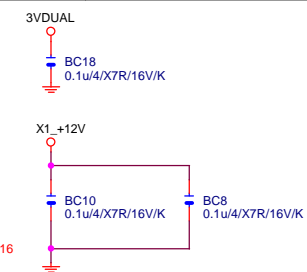
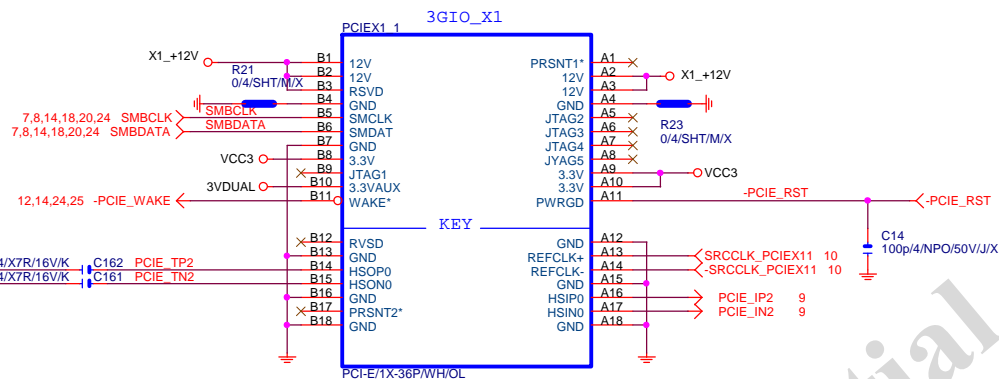
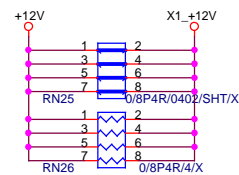
| | | | |
|-------|------------------------|----------------------|----------|
| Title | | PCH HOST , SATA, PCI | |
| Size | Document Number | GA-H61M-WW | |
| B | | Rev | 1.0 |
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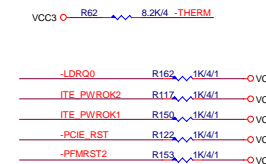
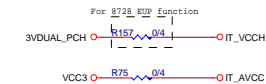
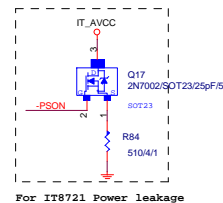
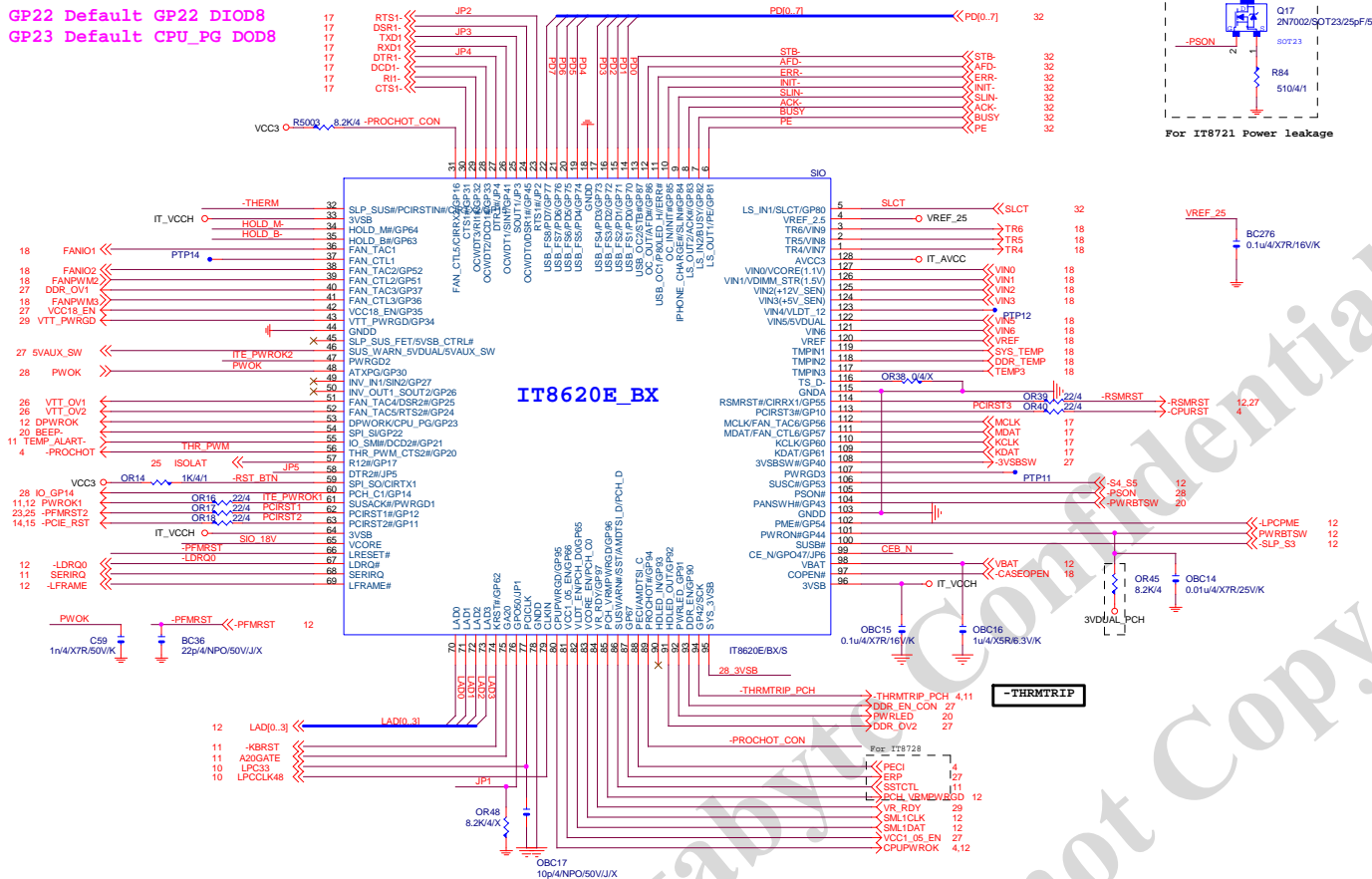
PCIE*1



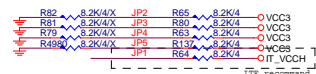
CLK GEN

| | | | |
|---------------------|------------------------|-------|----------|
| Gigabyte Technology | | | |
| Title | | | |
| PCIEX1,X2/CLK GEN | | | |
| Size | Document Number | Rev | |
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```
GP22 Default GP22 DIOD8
GP23 Default CPU_PG DOD8
```



H61M-S2 1.1 JP6 stuff
pull down




```

JP3--- High SPI-Flash Disable
      Low SPI-Flash Enable

```

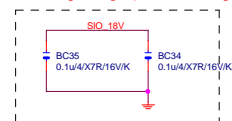
EUP from PCH

EUP control by PCH

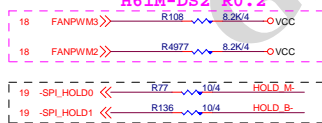
3VDUAL 



internal power pin, max 22nF cap



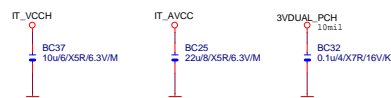
H61M-DS2 R0.2



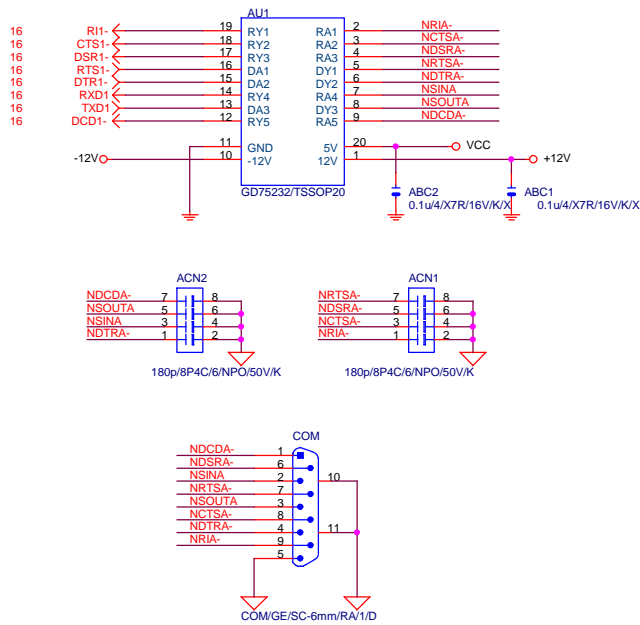
-CASEOPEN



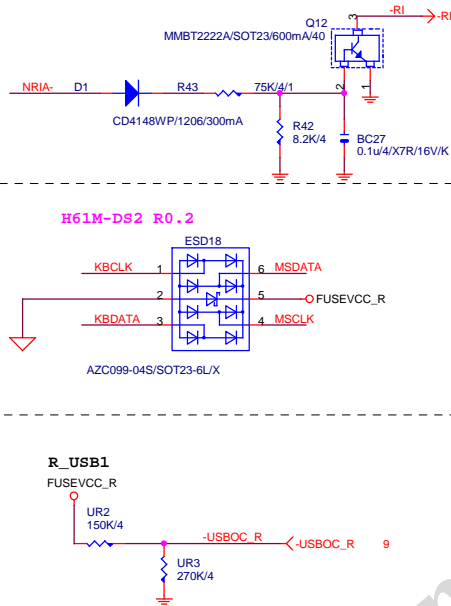
| | IT8728 |
|--------|--------------------------|
| PIN121 | VCORE_EN/PCH_C0 |
| PIN120 | VLDT_EN/PCH_D0 |
| PIN19 | ATXPG |
| PIN31 | PCH_C1 |
| PIN53 | SST/AMTS1_D/WTB3B/PCH_D1 |
| PIN55 | PECI/AMTS1_C/DRV8# |
| PIN66 | SYS_3VSB |
| PIN70 | GP47 |
| PIN95 | VIN2 (VCC5) |
| PIN96 | VIN1 (VCC12) |
| PIN97 | VIN1/VDIMM_STR1(1.5V) |
| PIN98 | VIN0/VCORE(1.1V)/NC |



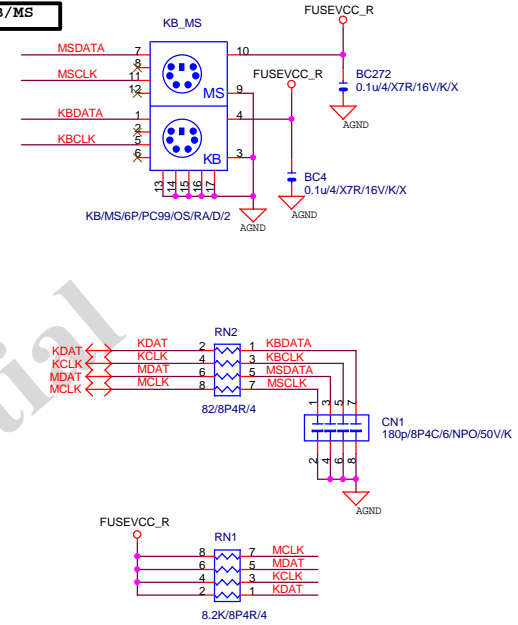
COM



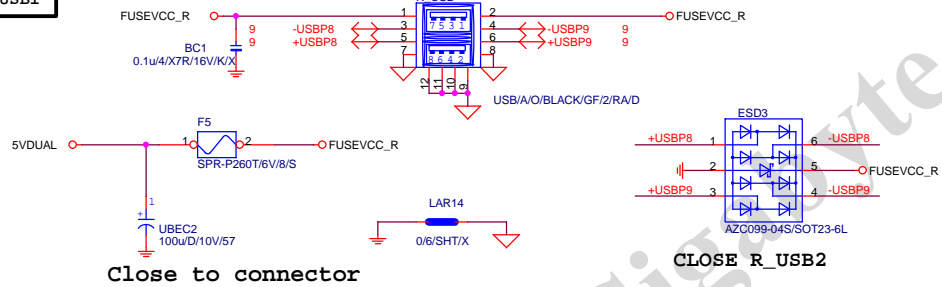
COM RI



KB/MS

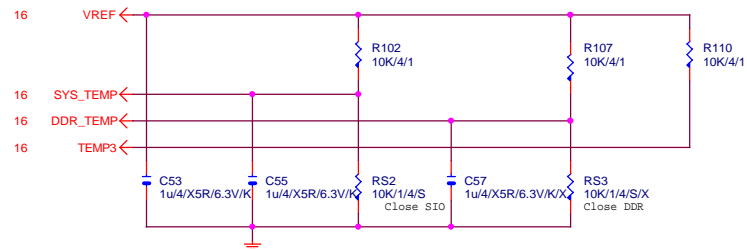


R_USB1

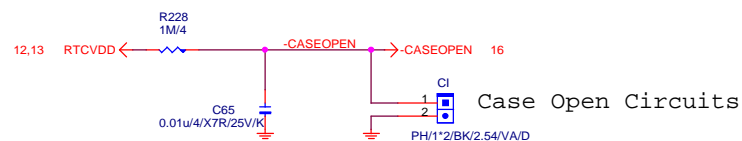


-PROHOT

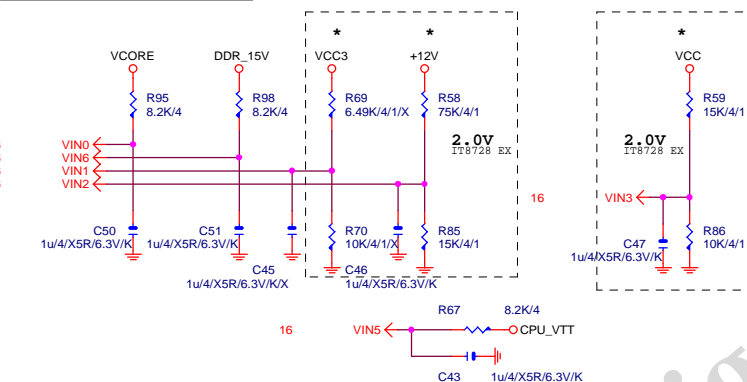
TEMP H/W MONITOR



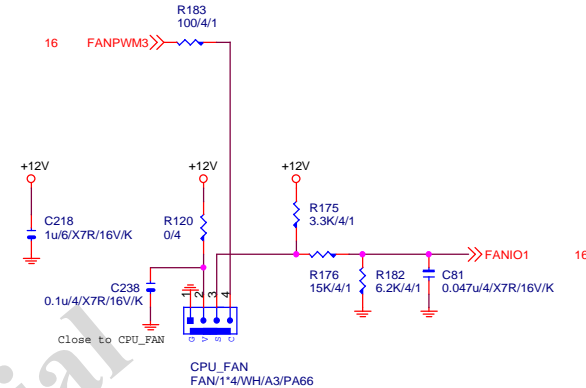
CASE OPEN



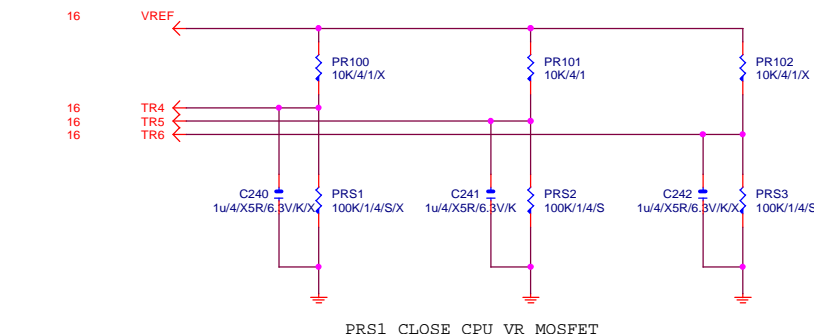
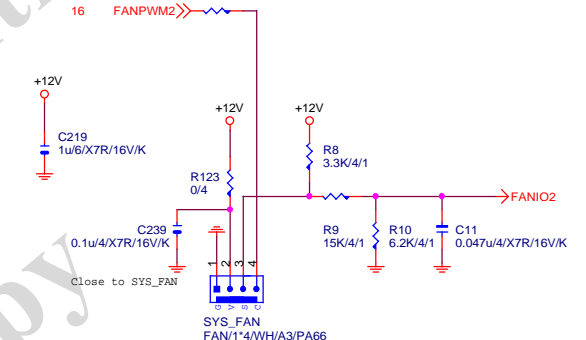
VOLTAGE-- H/W MONITOR



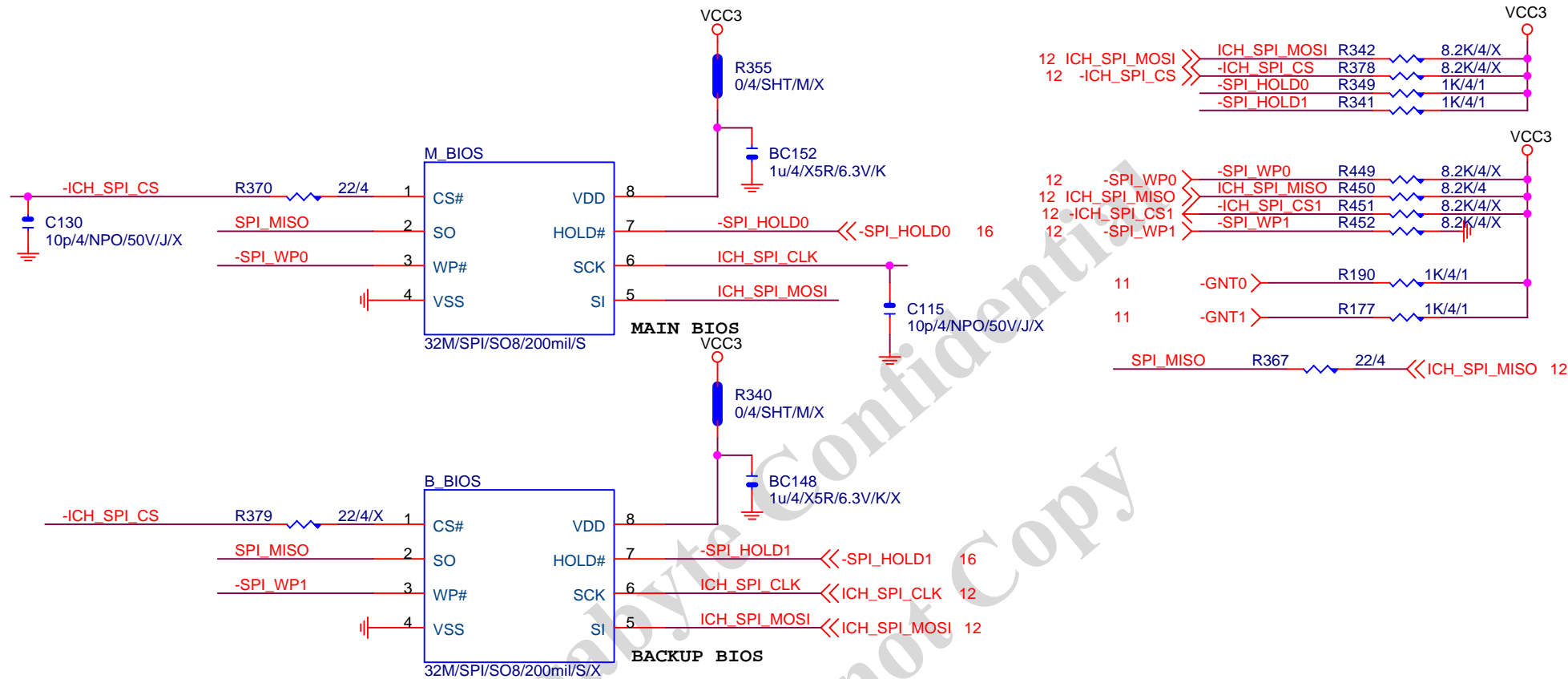
CPU SMART FAN



SYS SMART FAN



DUAL BIOS



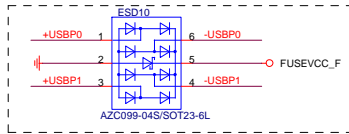
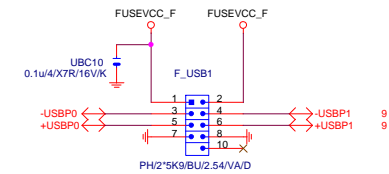
| BOOT DEVICE | GNT1 | GNT0 |
|----------------|------|------|
| LPC | 0 | 0 |
| PCI | 0 | 1 |
| SPI | 1 | 1 |

1 means floating
0 means PD 1K

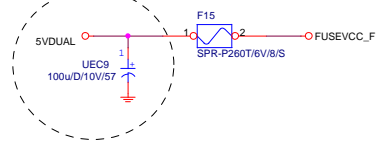
Gigabyte Technology

| | | |
|------------------------------|--------------------------------------|-------------------|
| Title | | |
| SINGLE BIOS | | |
| Size A | Document Number GA-H61M-WW | Rev 1.0 |
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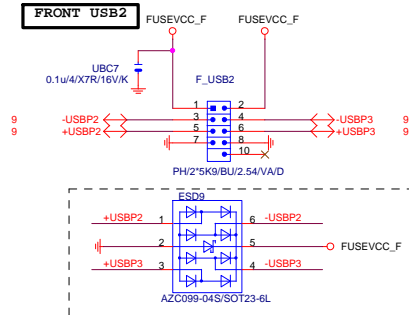
FRONT USB1



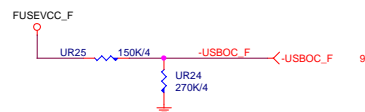
CLOSE F_USB1



FRONT USB2



FRONT USB3

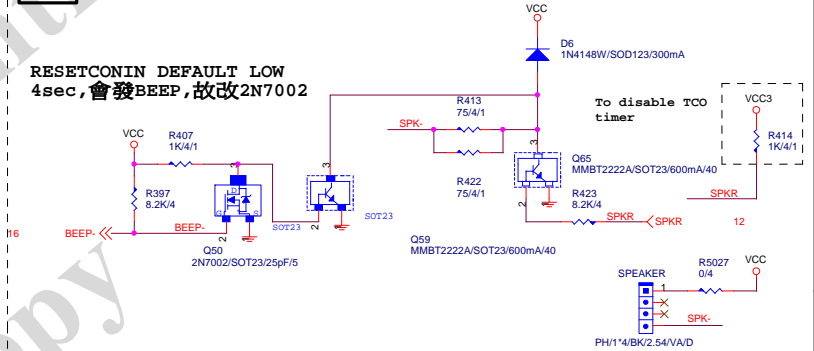


SATA LED

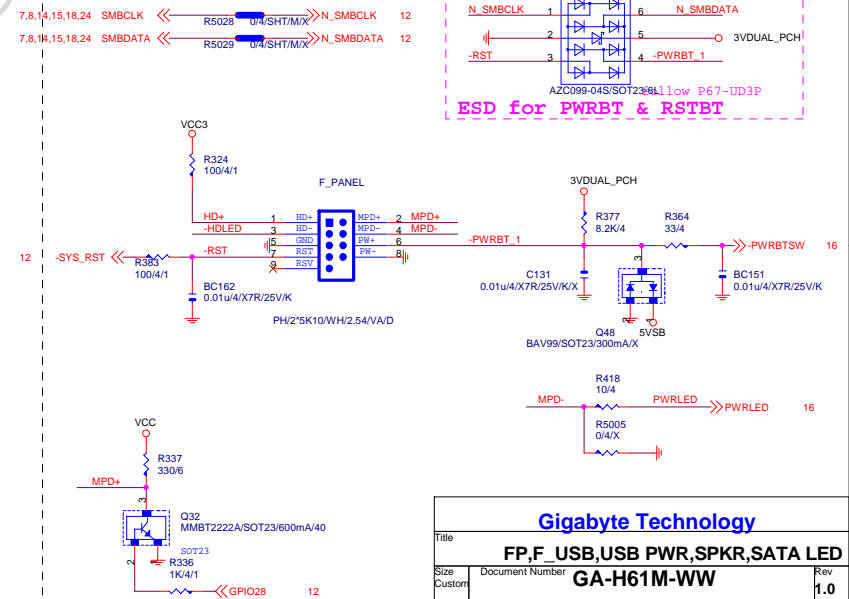


SPKR

RESETCONIN DEFAULT LOW
4sec, 會發BEEP, 故改2N7002

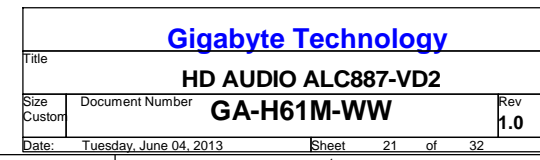


INTEL FRONT PANEL

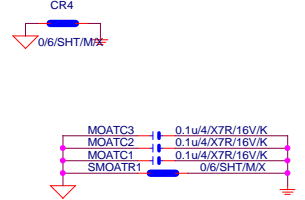
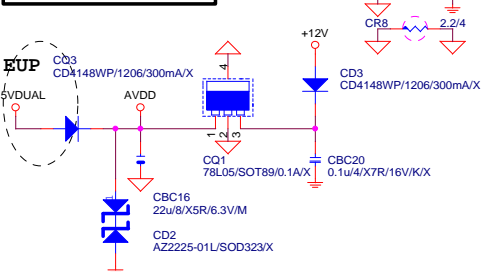


Gigabyte Technology

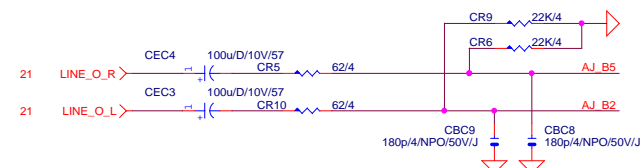
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|-----------------|-------------------------------------|------------------------|----------------|
| Title | FP, F, USB, USB PWR, SPKR, SATA LED | | |
| Document Number | GA-H61M-WW | | |
| Size | Rev | 1.0 | |
| Custom | Date: | Tuesday, June 04, 2013 | Sheet 20 of 32 |

[illegible]

CODEC POWER/EMI PAD

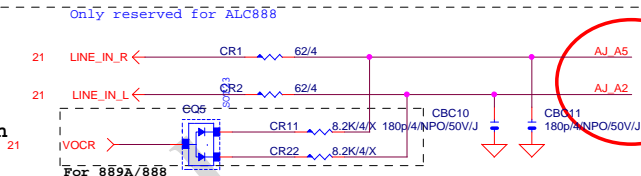


LINE-OUT

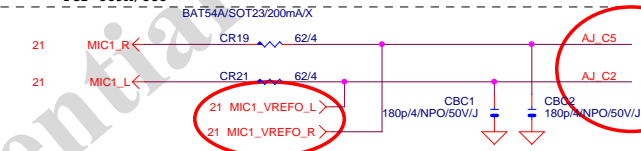


LINE-IN

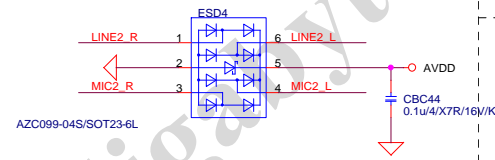
Verify MIC function in LINE-in



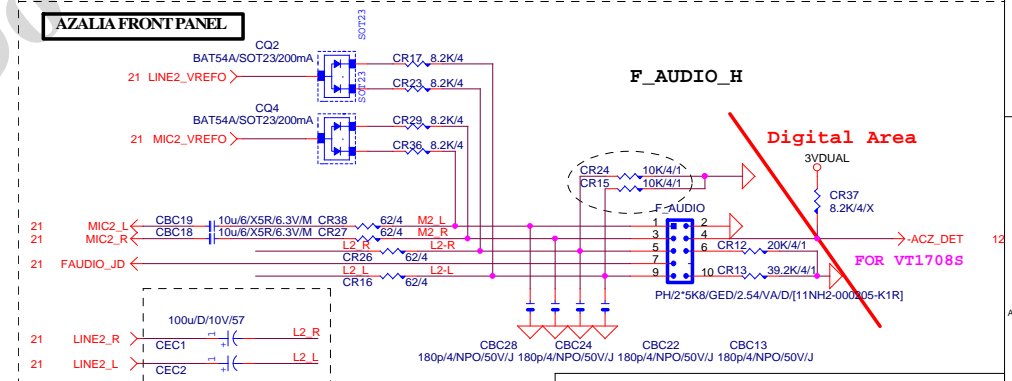
MIC-IN



AZALIA JACK

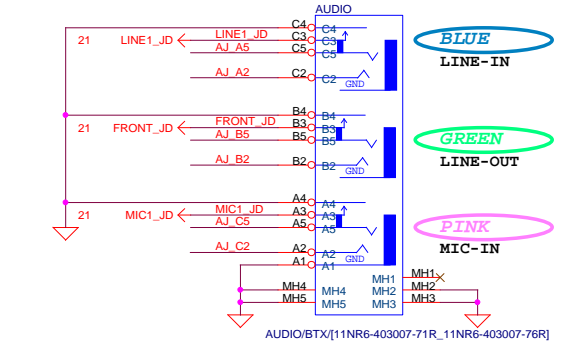
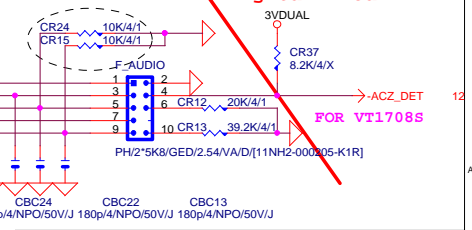


AZALIA FRONT PANEL

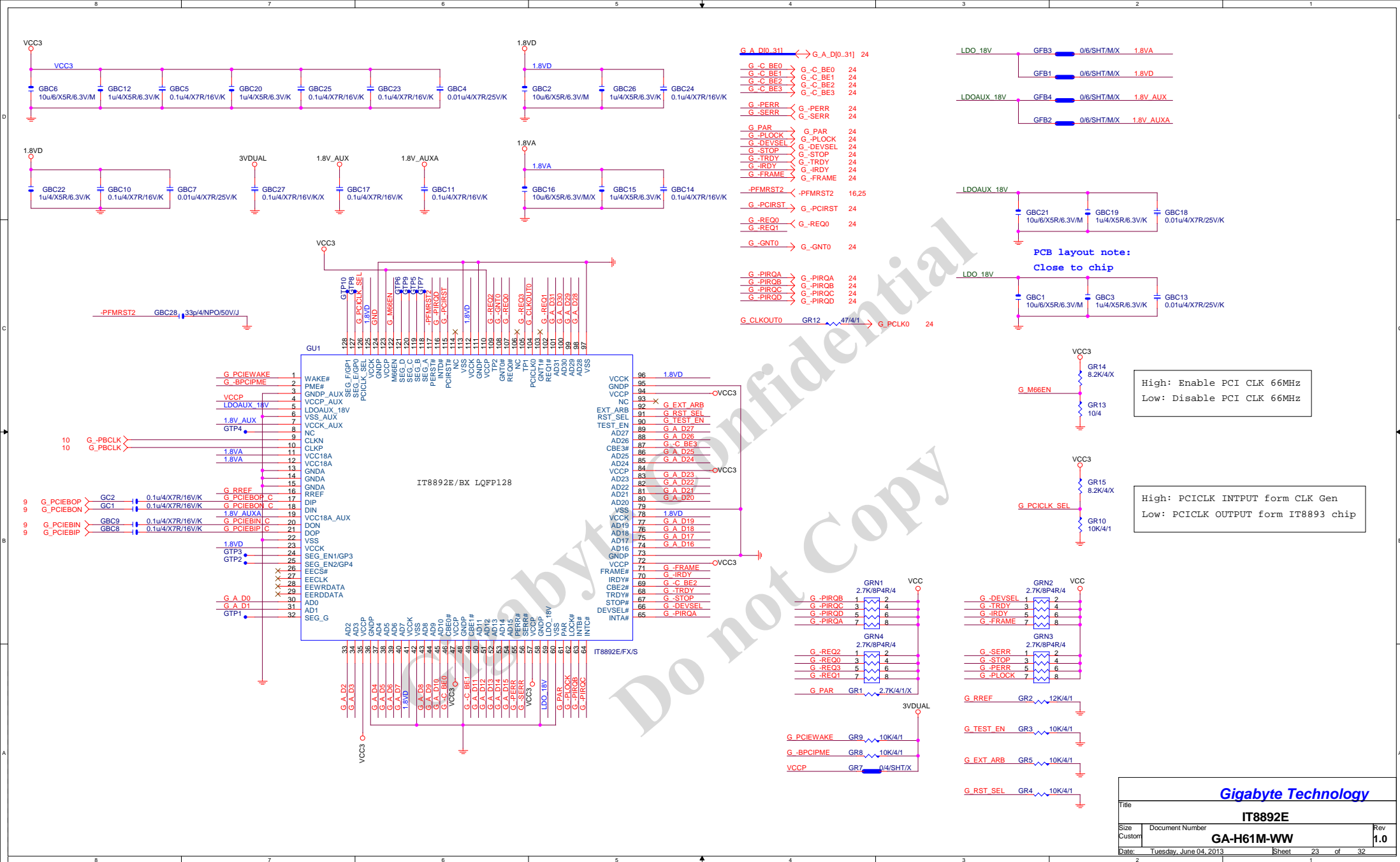


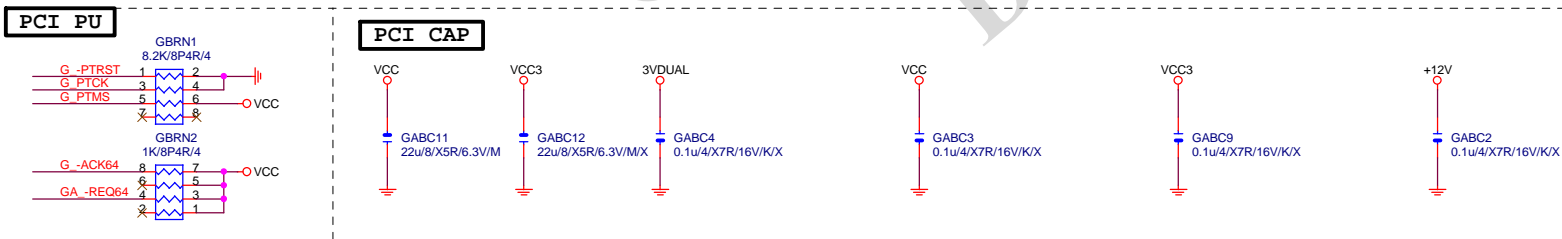
F_AUDIO_H

Digital Area



| Gigabyte Technology | | | |
|---------------------|------------------------|-------|----------|
| Title | | | |
| AUDIO JACK | | | |
| GA-H61M-WW | | | |
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| Custom | | | |
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|-------------------------------|------------------------|------------|----------|
| GIGABYTE™ | | | |
| Title PCI SLOT 1&2 | | | |
| Size | Document Number | Rev | |
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CPU_VTT

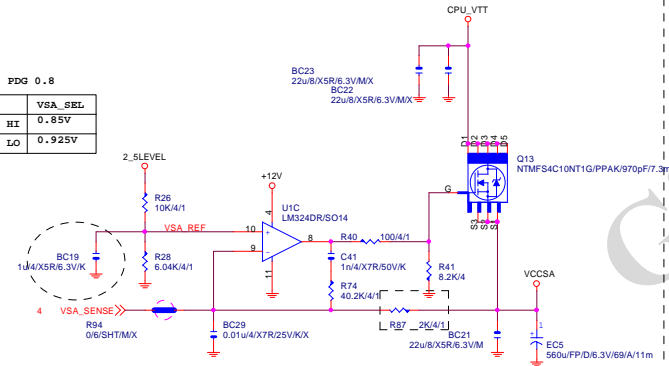
| VTT_EN | |
|--------|---------|
| HI | ENABLE |
| LO | DISABLE |

VTT OV option

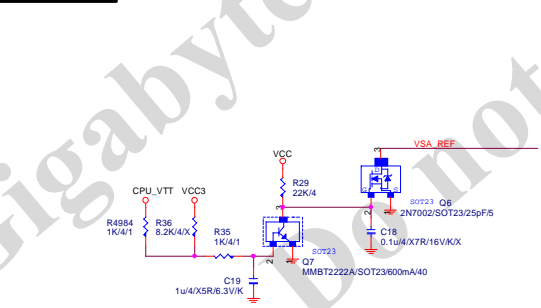


VCCSA

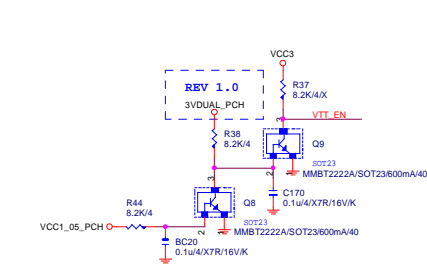
| |
|-----------|
| PdG 0.8 |
| VSA_SEL |
| HI 0.85V |
| LO 0.925V |



VCCSA PWR SEQ

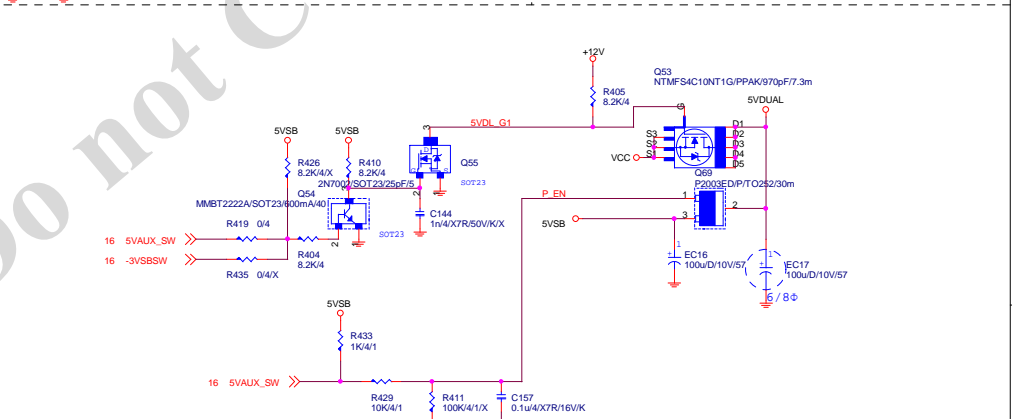
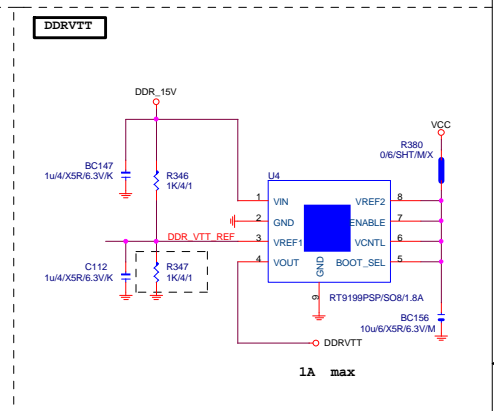
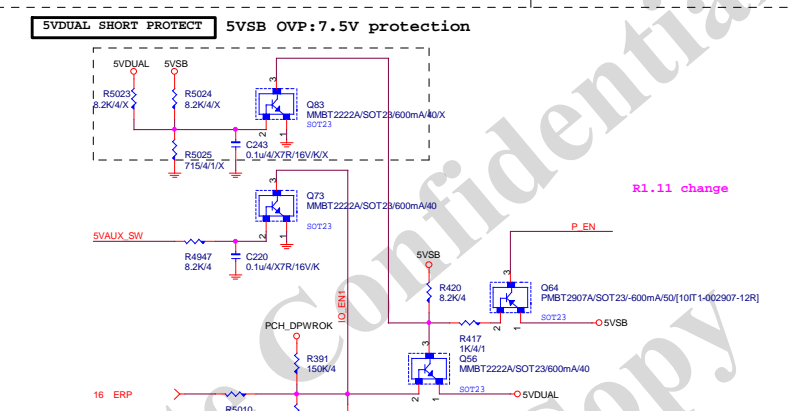
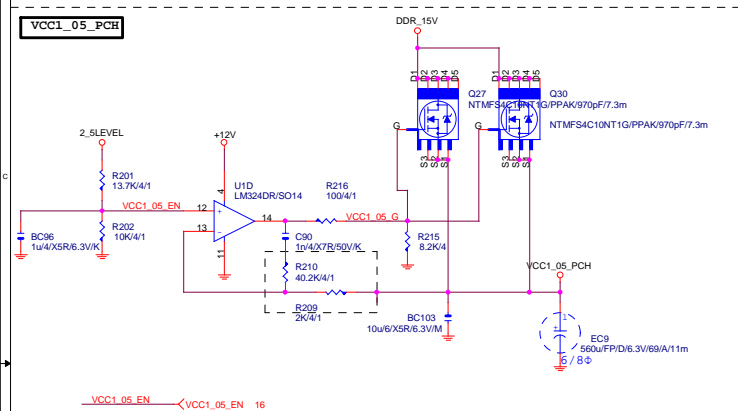
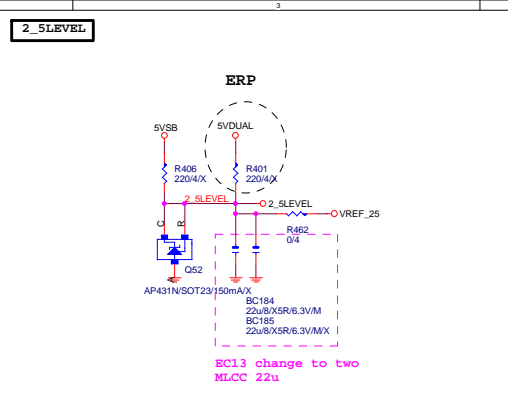


CPU_VTT PWR SEQ

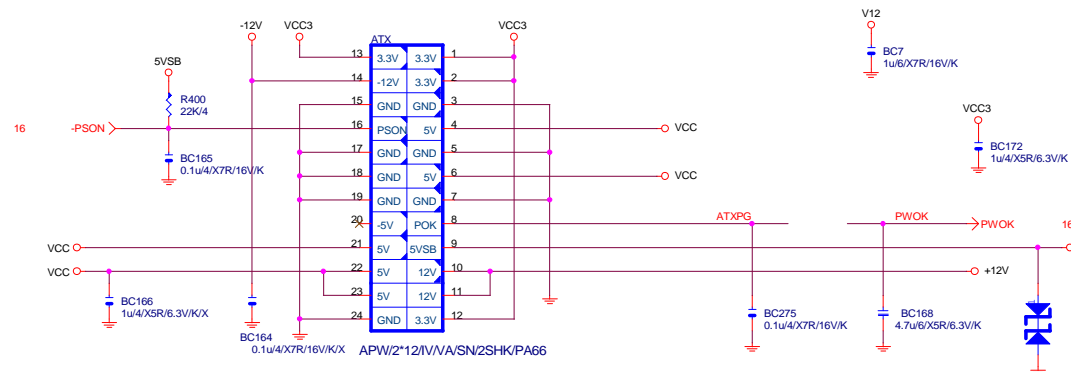


GIGABYTE™

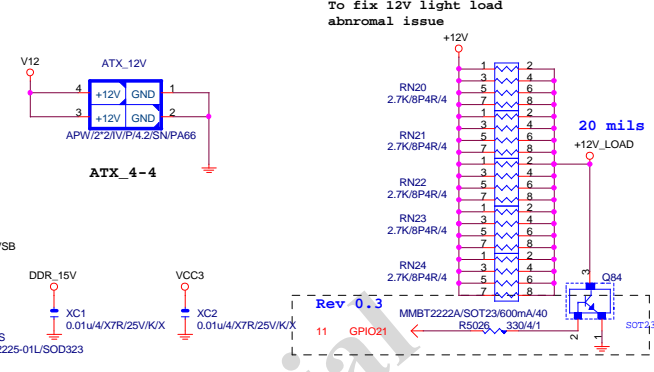
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|-------------------------|------------------------|------------|----------|
| Title | | | |
| CPU_VTT PWM ISL95870CRZ | | | |
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ATXX24 POWER CONNECTOR

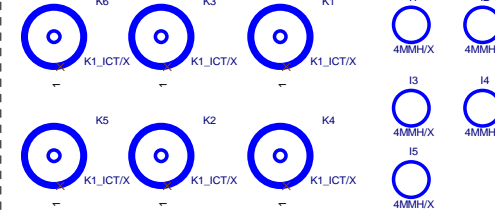
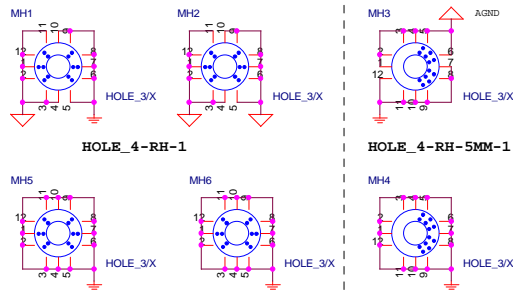
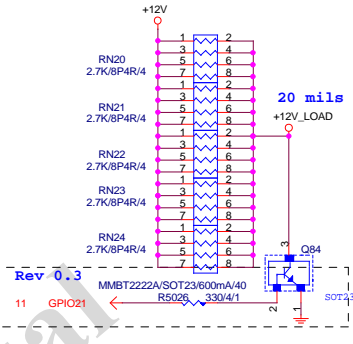


ATXX4 POWER CONNECTOR



【技術通報R&D技術通報153】

To fix 12V light load abnormal issue

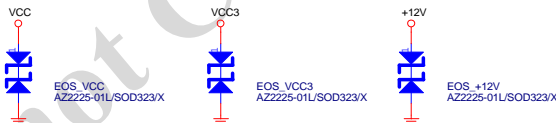
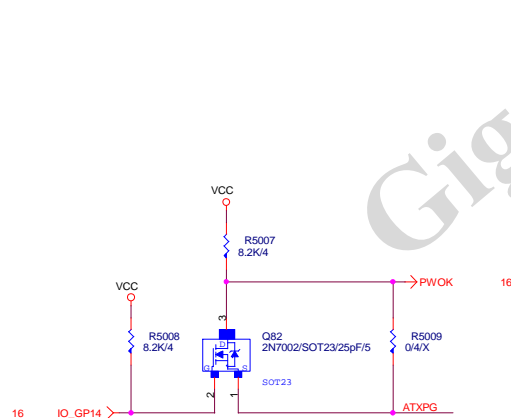


To prevent the 5VSB under loading when boot

5VDUAL1(USB PORT/DDRIII POWER)
5VDUAL(3VDUAL/OTHER)

-S_WARN-->5VDUAL1-->-S_ACK(PCH)-->-DEPSLP/-RSMRST-->5VDUAL-->3VDUAL

HOLE_4-RH-5MM-1



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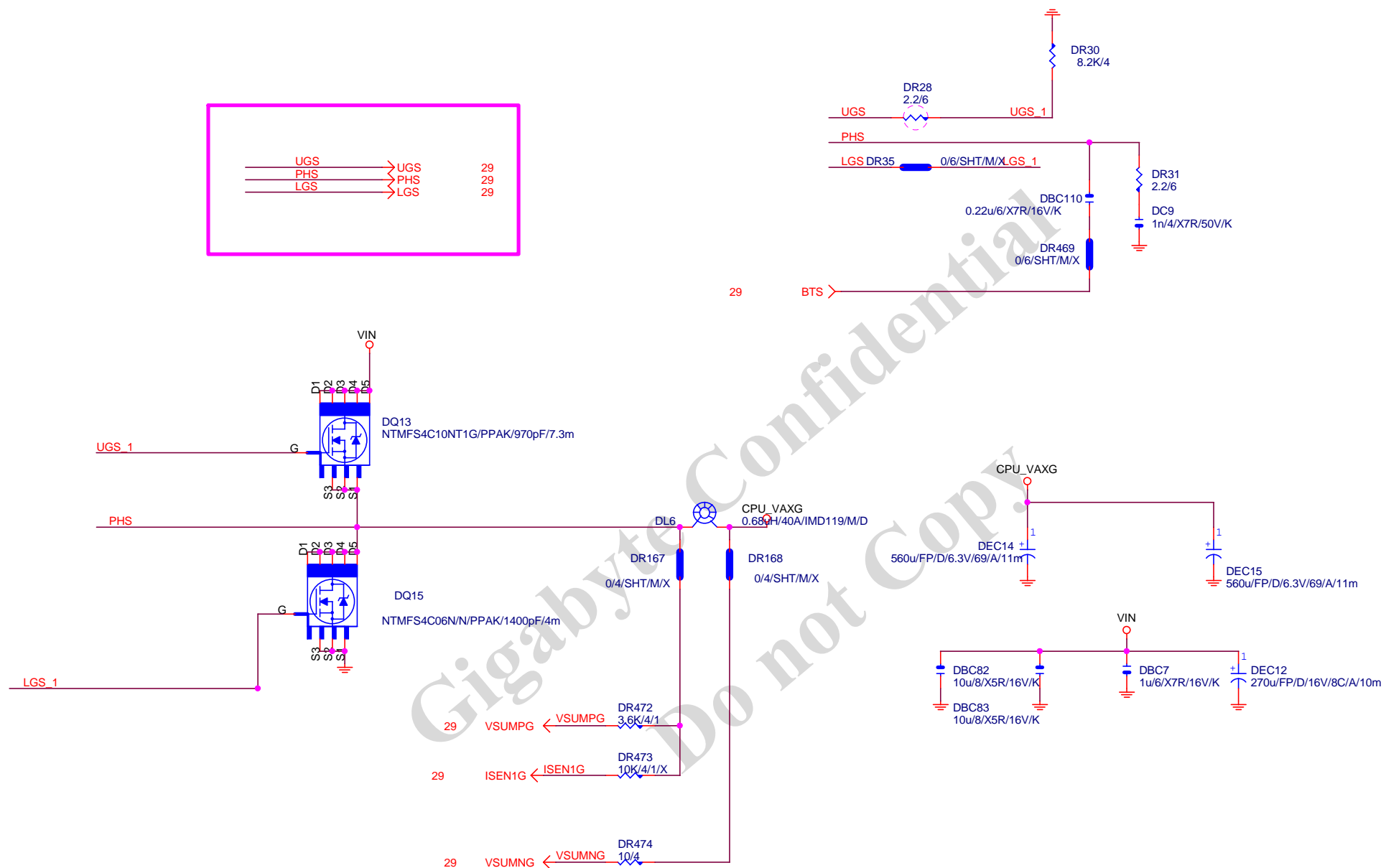
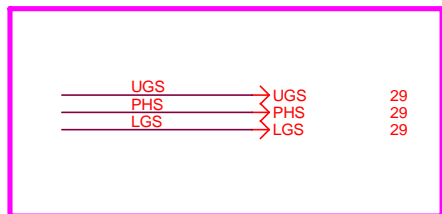
ATX CONNECTOR

GA-H61M-WW

Rev 1.0

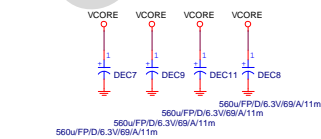
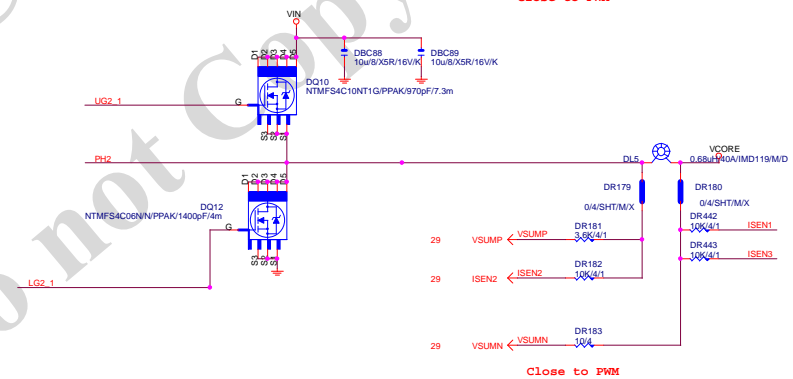
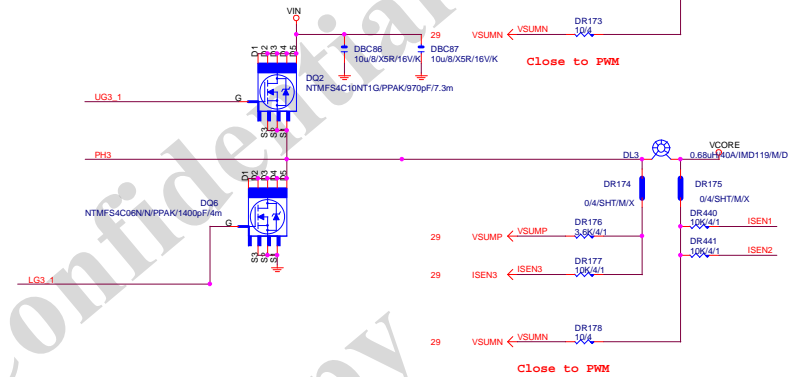
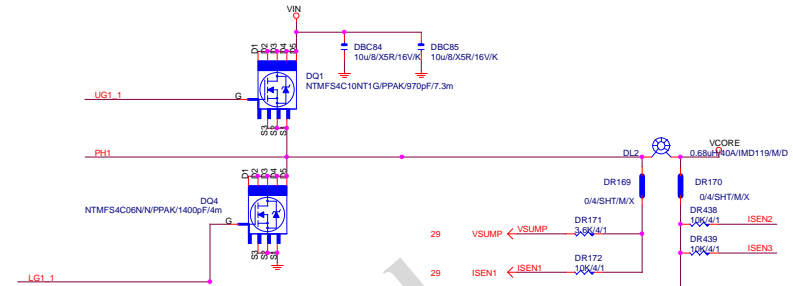
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|--------|------------------------|---------------|----------|
| Title | | ATX CONNECTOR | |
| Size | Document Number | GA-H61M-WW | |
| Custom | | | |
| Date: | Tuesday, June 04, 2013 | Sheet | 28 of 32 |

VAXG



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| | | |
|---------------|------------------------|----------------|
| Title | | |
| CPU CORE VR-2 | | |
| Size | Document Number | Rev |
| Custom | GA-H61M-WW | 1.0 |
| Date: | Tuesday, June 04, 2013 | Sheet 30 of 32 |



LPT PORT

